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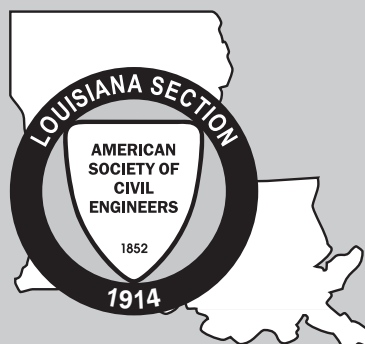


**Baton Rouge, LA – House Being Elevated
Following Repeated Flooding**

FEATURE:

Property-Specific
Flood Ri\$k, Part II

Region 5
Award Recipient



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**FEBRUARY 2022
VOLUME 30 • NO 2**

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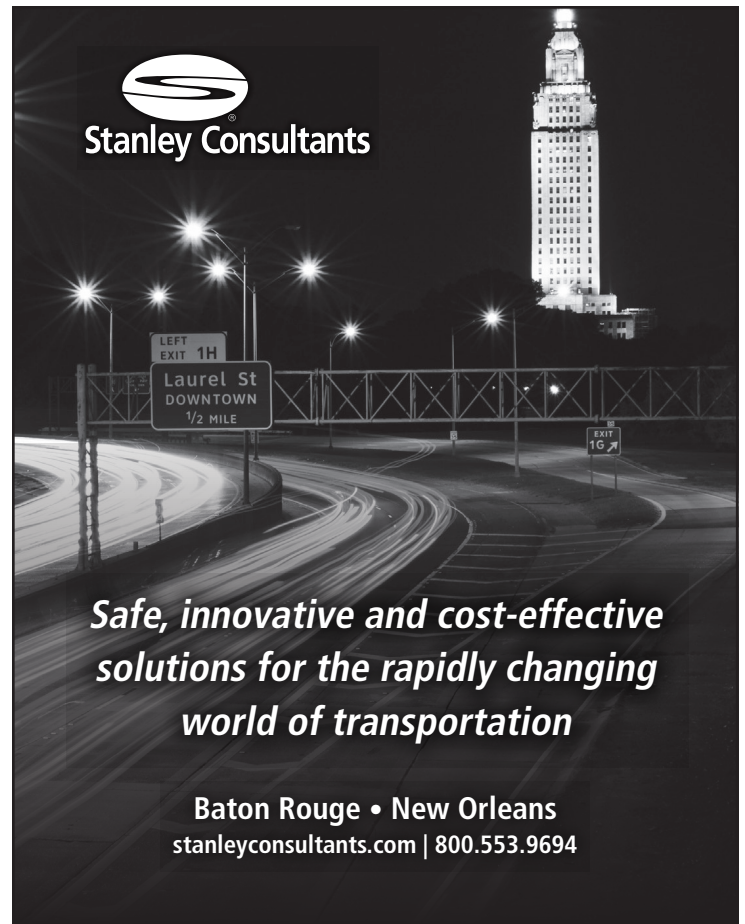
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President's Message

By *Tonja Koob Marking, PhD, PE, D.WRE, DFE, MBA, PMP, CFM*

Happy New Year to everyone. This year will hopefully be one of rebirth as we transition from pandemic mode to more in-person gatherings. ASCE Headquarters is optimistically moving forward with hybrid virtual and in-person conferences, committee meetings, and programs. The Louisiana Section is following their lead with board members Kirk Lowrey and Will Cenac attending the Legislative Fly-In in March and the Spring Conference hosted by the Shreveport Branch in April.

This is a good year to be a civil engineer. We are continuing our efforts on the Louisiana Infrastructure Report Card, with Jan Evans leading a team with members from each of our four Branches. Our previous score in 2017 was D+. With the Infrastructure Investment and Jobs Act (IIJA), we have the opportunity to improve our grade. According to Senator Cassidy, Louisiana will benefit from the hundreds of billions to rebuild America's transportation infrastructure, including \$110 billion for roads and bridges. The Infrastructure Investment and Jobs Act includes \$46 billion for resiliency that will go in part to rebuild Louisiana's eroded coastlines and waterways and \$65 billion to bolster American energy and strengthen the electrical grid from disaster. It will also invest \$65 billion in broadband to expand internet access to tens of thousands of Louisianans who currently do not have access.

IIJA will help Louisiana become more resilient to disasters after Hurricane Ida with funding for critical evacuation routes included with nearly \$6 billion over the next five years for roads and bridges in our state. The legislation includes \$26 billion specifically to strengthen our nation's electrical grid to prevent widespread power outages like those that occurred during Hurricane Ida. This includes \$5 billion directed at enhancing the resilience of electric grids

from extreme weather and natural disasters, \$12.5 billion to increase power transmission to maintain reliable access to energy, and \$9 billion to develop and deploy new technology to strengthen grid reliability and resiliency. Of the \$17 billion for the Army Corps of Engineers in this bill, \$2.55 billion is specifically for Coastal Storm Risk Management and Hurricane and Storm Damage Reduction projects targeting states such as Louisiana that have been impacted by federally declared disasters over the last six years. There is another \$5.5 billion in disaster mitigation, coastal restoration and flood mitigation assistance.

Lastly, we will dedicate Louisiana's latest ASCE National Historic Civil Engineering Landmark this spring. The New Orleans Drainage System is the 5th ASCE Landmark in Louisiana. We know more projects in Louisiana qualify for landmark status. If you are interested in preparing an application for a potential landmark in your Branch, please contact me.

Thank you again for this opportunity to serve as your president. I look forward to seeing you at a meeting soon.



Tonja Koob Marking, PhD, PE, D.WRE, DFE, MBA, PMP, CFM



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Property-Specific Flood Ri\$K, Part II

By: Bob Jacobsen, PE



Bob Jacobsen, PE

Louisiana is especially vulnerable to ongoing climate trends—in particular the escalating frequency of extreme floods. Thankfully, advances in flood forecasting, warning, and evacuation have improved public safety. But to mitigate accelerating flood damages—apart from correcting anthropogenic greenhouse impacts—we must obtain a sound understanding of flood financial risk, overcome the problematic approaches of the past 100 years, and do what makes sense, both as property-stakeholders and through our government.

The current flood financial risk mess is largely rooted in the absence of reasonable property-specific flood risk pricing—long available for other property-specific hazards—and the ensuing distorted perceptions and detrimental private and public decisions. Chief among the legacy distortions are developments in “*flood protection*,” “*drainage*,” and the National Flood Insurance Program (NFIP) “*artificial ceiling*.” The NFIP’s new *Risk Rating 2.0* approach regrettably continues significant underpricing of flood risk for many areas and overpricing for many others. The heavily promoted online *Flood Factor* (recently developed by First Street Foundation) does not price flood risk, instead relying on crude ratings.

Fortunately, a real revolution in sound *property-specific flood ri\$K* pricing is underway. (The terms “*ri\$K*” and “*re\$iliency*” are used in this white paper to refer specifically to the direct financial

aspects of flood risk and resiliency faced by property-stakeholders.) The revolution will drive powerful improvements both in property-stakeholder due diligence, insurance, and mitigation, as well as in public mitigation efforts. Fully committing to the revolution in property-specific flood ri\$K—more than anything else—will be the key to re\$ilient assets and, in turn, sustainable communities. Critically, as with most ri\$ks, we can never eliminate flood ri\$K. Therefore, while we should mitigate what makes sense, we must acknowledge and insure the ri\$K that remains.

Part I of this article (presented in the November 2021 issue) summarized **Important Concepts**—with a Basic Flood Ri\$K Glossary and “The Ten Steps for Calculating a Property-Specific Flood Ri\$K”—crucial for every professional with an interest in flood ri\$K. Part II now presents—**The Revolution**—a short history of relevant developments, goals, technology, and government policies that contributed to the current flood ri\$K mess—together with an overview of the coming dramatic changes leading towards a better flood ri\$K management future.

Part II. The Revolution

Pre-World War II

Through the first half of the 20th Century, progress in the professional practices of gathering and analyzing full-spectrum hazard and damage data rapidly improved pricing and insuring of many property ri\$ks—such as fire and wind ri\$K. The goal of controlling insurance costs in turn stimulated common practices for private mitigation—e.g., building design. Public mitigation also focused on reducing insurance costs—by regulating basic building standards and investing in key infrastructure, such as modern water systems. However, significant limitations with flood hazard data prevented pricing and insuring most flood ri\$K. So rather than reducing insurance costs, government flood related efforts bifurcated towards two distinct public goals: “*flood protection*” and “*drainage*.”

From antiquity until very recently, there was often no reliable way to provide timely warning and comprehensive public evacuation before a devastating flood. So in those river and coastal floodplains where building was just too tempting, leaders organized their communities to take lifeguarding measures. The term “flood protection” inherently encompassed public safety and constructing the most massive levees, walls, and occasionally pumps, a community could afford. In the United States prior to World War II flood protection for extreme storms was essentially a local and sometimes state responsibility—except along major rivers where

flood protection could be addressed in conjunction with interstate navigation, irrigation, power generation, and water supply.

The development of the modern lifestyle around the automobile required public works agencies to rapidly expand paved road networks—with the goal of keeping roads reasonably free of standing water for most storms. This was referred to as “*drainage*,” which in contrast to flood protection emphasized practicality and modest flood magnitude goals. Key drainage technologies included raising road embankments through floodplains; paving and sloping surfaces; adding gutters, drains, inlets, subsurface pipes, ditches, etc. for conveying away runoff; and sizing culvert and bridge openings. As state and local governments worked to expand their road networks they couldn’t afford the high cost of designing them for extreme storms.

Pre-World War II suburban development typically went hand-in-hand with basic road drainage—with some neighborhood drainage improvement to address localized flash-flooding during intense rains. Neighborhood drainage improvement was usually limited to installing street ditches and culverts, and some widening of nearby receiving streams. However, the goal for neighborhood drainage improvement was again practicality not safety. Property owners elevated their homes and other buildings on piers as appropriate.

Poorer citizens and those subject to discrimination were often left,

and even forced, to build in more flood-prone areas. Drainage improvement was often minimal for these neighborhoods, which reflected the grossly unfair politics of the time.

An important aspect of Pre-World War II flood protection and drainage improvement—as well as transportation and suburban development—was that they all frequently neglected potential adverse flood impacts on other areas—upstream as well as downstream—especially if the other areas were sparsely populated, poor, or occupied by minorities.

Post-World War II to 1968

In the second half of the 20th Century, common practices for pricing, insuring, and mitigating fire, wind, and many other risks, as well as government regulation and mitigation, became well-established. With established building standards, courts expanded the responsibilities for property-stakeholders (owners, renters, managers, buyers, agents, brokers, lenders, investors, and insurers) to exercise “due diligence”—a term with specific legal force—for risk valuation during property transactions. However, with few exceptions, standards for the valuation of property-specific flood risk—as well as flood insurance—were still not available.

During this time, crude statistical information on river and coastal flooding started to become available, allowing hydrologists to begin characterizing flood hazard using mathematical probability—following in the footsteps of what engineers were doing for other hazards. As a result, design standards for flood protection and drainage—motivated by public safety versus practicality, respectively—began to be tied to particular probabilities.

Public safety was referenced to a worst-case or “maximum probable” event, usually using 1-in-10,000 annual chance as a reference. Flood protection for the most extreme conceivable flood was obviously expensive, so government agencies began reserving exacting public safety designs primarily for dams with downstream towns, and river levees around major floodplain cities and critical facilities.

Practicality was typically referenced to a much more modest level that was actually periodically observable—such as “once over the course of a decade,” i.e., a 1-in-10 annual chance (or 10-year storm, see *AEP* and *Return Period* in **Basic Flood Risk Glossary**). This was consistent with the demand for a reliable, rapidly expanding, transportation network. In some situations less modest targets were accepted, and in some a higher goal was adopted—e.g., a 20- or 25-year storm. But given the expense associated with constructing roads and bridges through low-lying areas and the increasing use of subsurface stormwater conveyance, state and local funding for bigger and costlier drainage designs was very rare. Naturally politics influenced the prioritization of which neighborhoods received the best drainage improvements.

During this period two important trends began stimulating ambitions for public projects addressing intermediate threats in between the once-a-decade observable flood and the worst-case conceivable flood. One trend was suburban sprawl into floodplain margins across the country. The other trend was political consensus for expanding the federal government role in state/local highways, rivers, and coasts—rooted in its much less fettered spending/

borrowing capacity and machinations of Congressional pork-barrel politics. While projects aimed at intermediate floods might save some lives, more and more projects were driven by the idea of “economic feasibility” borrowed from the private and public mitigation of other risks: the \$ benefit from reducing future flood damages outweighs the project \$ cost.

A touted advantage of characterizing floods with probability—as with other hazards—was facilitating quantitative analysis of various options for a particular project to make it more cost-effective. Such studies could optimize a “flood mitigation” project—maximizing the net benefit of long-term damage risk reduction minus total long-term project costs, i.e., “to get the most bang for the buck.” Furthermore, agencies spearheading flood mitigation could use the quantitative feasibility studies as a standardized way to compare and prioritize among proposed projects and to optimize the overall government investment in a collection of projects.

However, while the quantitative feasibility study involves a straightforward and rigorous methodology, actual studies also involve huge uncertainties in estimates for property-specific flood probabilities and risk pricing—as well as for project costs. Significant uncertainty even in aggregate risk estimates was the basic reason that flood insurance remained unavailable (see *Law of Large Numbers*, in **Basic Flood Risk Glossary**). Regrettably, public flood risk mitigation feasibility studies were often touted with an exaggerated sense of precision. Naturally politics then found ways to influence the “scientific guesstimates.”

Congressmen and local leaders ambitious for more floodplain development, and agency officials ambitious to build more projects, usually preferred to simply call mitigation projects “flood protection”—inflating the impression that the projects would provide for significant improvements in public safety. A classic case in point was the development of hurricane surge levees around New Orleans. Those ambitious for these projects also continued largely to neglect adverse flood impacts on other areas, as well as adverse environmental impacts.

1968 to 2005

By the late 1960s the accumulating suburban sprawl into marginal river and coastal floodplains had led to more and more floods with loss-of-life and extensive property-damage. Prominent events—like Hurricane Betsy in 1965—precipitated major federal flood response/recovery expenditures, which spurred federal legislation to reduce flood disasters—both for public safety and economic goals.

To improve public safety the federal government made substantial investments in weather and flood forecasting. The ensuing decades produced rapid technological advances in the timely acquisition and processing of satellite and other data, atmospheric models, and river stage and coastal storm tide predictions. With these advances, experts came to see “warning and evacuation”—not flood protection projects—as the priority for public safety in most places. By the 2000s, for nearly all flood exposed communities, government response to public safety threats actually rested on the quality of organized procedures for warning and evacuation.

To reduce the escalating federal cost of aid associated with flood

damage, in 1968 Congress created the NFIP, reflecting five strategies:

1. Prepare standardized maps delineating a particular intermediate flood level as a “special flood hazard area” within all floodplains across the nation. Administrators chose the 1-in-100 annual chance or 100-year return period flood. Over the next decades, the NFIP—through a combined effort of the Federal Emergency Management Agency, the states, and local government coordinators—prepared the standardized 100-year flood zone maps and employed them in the other four strategies.
2. Develop a government-run program of flood insurance to get property stakeholders to better assume some of the flood risk; (at the time there continued to be insufficient actuarial information on property-specific flood risk to stand-up a private flood insurance market);
3. Regulate riskier floodplain development and adverse flood impacts;
4. Facilitate flood mitigation projects; and
5. Better communicate flood hazard and risk to property-stakeholders and inform due diligence.

While the NFIP approach was innovative and seemed highly logical on its face, it had an adverse unintended consequence. Its simplification of *full-spectrum flood hazard* into an emphasis of a single intermediate level resulted in the 100-year flood becoming widely treated as an “*artificial ceiling*” on flood exposure. This artificial ceiling became reflected and reinforced in all five strategies, and precipitated serious distortions in flood risk perceptions and detrimental private and public flood risk decisions:

1. As the 100-year flood zone maps became established, there was increasing reluctance to abandon the simplified approach and update to a rational, full-spectrum treatment of flood hazard. Notably, local officials often had little initiative for, and were often given to stonewalling, map revisions which would expand 100-year flood zones.
2. The NFIP’s mapped 100-year flood zone became a sharp threshold requirement by lenders for maintaining flood insurance. For marginal areas just outside/above the 100-year zone, the lack of a flood insurance requirement was heavily promoted by real estate interests and actually discouraged participating in flood insurance. At the same time the NFIP heavily subsidized insurance premiums inside/below the zone. This caused significant underappreciation of the true flood risk in both areas.
3. The NFIP’s artificial ceiling was widely adopted as an upper-limit flood scenario in regulating floodplain development—particularly for requirements to a) elevate new housing; b) prevent adverse impacts from floodplain fill and obstruction; and c) mitigate impacts from land use changes causing increased runoff.
4. The NFIP’s 100-year flood level became an exaggerated focus of mitigation projects. With the backing of numerous

Congressionally established subsidy programs through the USACE, FEMA, HUD, NRCS, and BLM, NFIP-based levees, channel enlargements/ diversions, detention areas, and pump stations became very attractive for marginal floodplain areas. In addition to just focusing on the 100-year-flood, NFIP projects also limited costs by allowing low contingency factors for addressing flood hazard uncertainty.

5. As the NFIP’s 100-year flood artificial ceiling became entrenched in flood mapping, insurance, regulation, and mitigation, it created a harmful “*false binary*” perception of flood risk: that there is no flood hazard outside of, or above, the mapped 100-year flood zone. The widespread public inculcation of this false binary in turn exacerbated all of the above distortions. Notably, given its government imprimatur, the false binary also became a common oversimplification in flood risk due diligence. A sadly too frequent example was the story told by owners of flooded homes that developers, real estate agents, lenders, and closing attorneys had all represented that being above the NFIP 100-year flood level and having no requirement to maintain flood insurance equated with no flood risk.

The artificial ceiling and its distortion of flood risk perceptions and decisions were made worse by six factors:

1. Maps of 100-year flood zones quickly became obsolete. Not only were initial versions often biased low, but rapid regional development and landscape changes meant maps needed frequent updating.
2. NFIP sponsored map updates were chronically underfunded, painfully slow, and often poor at addressing local conditions—especially localized flash flooding.
3. Local officials often only funded updates that would reduce the size of 100-year flood zones.
4. 100-year flood estimates did not incorporate evidence of significant rainfall climate trends.
5. 100-year flood estimates had significant inherent imprecision: even the best, unbiased “scientific guesstimate” can really be the 50-year flood.
6. And crucially, while it is “rare-sounding,” a 100-year flood level is really “not-so-rare” over longer durations. For a given property, over a 30-year mortgage the 1-in-100 annual odds translate into greater than 1-in-4 odds. And over community and regional scales, where there can be many independent flood sources, the odds get much higher.

Combining these factors together, it is not at all surprising that some floodplain communities experienced multiple “NFIP 100-year floods.”

Over time, special interests naturally arose with big stakes in the artificial ceiling—such as owners/developers of property at the margins of the 100-year flood area, NFIP-based mitigation proponents, and third-party NFIP insurance policy issuers. The high-stakes associated with the artificial ceiling naturally precipitated political influence to reinforce and resist eliminating it, and often to

even maintain obviously outdated mapping of it.

During this period, drainage projects continued to focus on the practicality of handling modest 10-to-25-year floods. Drainage designs stressed adoption of proven, consistent, straightforward, affordable practices, and were rarely very conservative. If an area was subject to heavy damages at higher floods—or if development of a desirable area required significant flood reduction—local political leaders would enlist state and federal officials to explore upgrading a local drainage project to become an NFIP-based mitigation project, such as in the case of the Corps of Engineers Southeast Louisiana (SELA) and Five Bayous Projects in New Orleans and Baton Rouge.

Besides affecting the design of individual mitigation projects, the NFIP's artificial ceiling also affected the overall prioritization of flood risk management efforts. For example, in New Orleans prior to 2005, implementing SELA projects to reduce interior rainfall flooding were given much higher urgency over finishing the perimeter hurricane surge levee project, due to the former's priority in significantly reducing NFIP flood hazard areas.

During this time, growth in the number, complexity, and intensity of navigation, recreation, environmental, equity/justice, and other interests—and federal mandates reflecting these interests—expanded and prolonged the scope of flood risk mitigation feasibility studies. Specialized investigations of adverse flood and other impacts, and multiplying administrative reviews, often resulted in extended delays, and in some cases cancellation, of proposed mitigation. Hindsight has shown that some were fortuitous and some were not. The New Orleans regional hurricane surge levee project has examples of both.

Often the same state and local officials had overlapping responsibilities involving drainage, administering the NFIP, mitigation projects, and warning and evacuation. Too often, less knowledgeable officials and stakeholders had difficulty differentiating goals and what flood risks were really being addressed by what actions. Given the broadening reach of the NFIP, most officials in discussing flooding found it convenient to communicate with the simplistic, false binary characterization of flood risk—and to use the terms “protected versus unprotected.” Some less-than-careful officials ambitious for drainage as well as NFIP-based mitigation projects actually aggressively promoted all of them as “protection” projects. Sadly, this loose use of the term “protection” ignored that the public's safety really relied on improving effective warning and evacuation.

Not surprisingly, as the NFIP's artificial ceiling became more and more entrenched, most of the media and the public came to equate all government flood risk management efforts with the sweeping binary of “protection,” which further bred a false sense of security, and drastically under-represented financial vulnerability. In an ironic twist, most citizens who thought themselves “protected” naturally did not bother to buy flood insurance! New Orleans at the time of Hurricane Katrina was just one of countless striking examples.

2005 to Today

The failure of the New Orleans levees and floodwalls in Hurricane Katrina (due to constrained designs, incomplete features, and

several poor design compromises), and associated catastrophic loss of life, forced recognition that labeling “NFIP-based mitigation” as “flood protection” was blatantly irresponsible. Experts insisted on recognizing the fundamental limits of NFIP-based mitigation projects: that they reflect only finite economic design objectives and include only modest contingencies for uncertainty. For such projects experts emphasized that public safety must rely on warning and evacuation. To drive this point home, the federal government officially renamed the rebuilt NFIP levees around New Orleans as “the Hurricane and Storm Damage Reduction System.”

Astonishingly, there continued to be state and local officials who promoted excessive confidence in NFIP-based flood mitigation projects. A truly jaw-dropping example has been persistent advertising of the rebuilt New Orleans NFIP hurricane levee system by local officials as “protecting you from floods, storms, and hurricanes.”

Massive uninsured damages for Hurricane Katrina and numerous other flood disasters highlighted the NFIP's failure to control federal flood disaster aid, leading many flood experts to expound on the vicious circle between distortions of flood risk and bad decisions at all levels that actually increased flood risk. Many federal, state, and local officials came to recognize that the NFIP's 100-year flood artificial ceiling resulted in mitigation under-design in urbanized floodplains. But officials in less populated areas pointed out that the NFIP required costly mitigation over-design for their communities. Communities with modest flood hazard also pointed out that overpriced NFIP premiums outside the 100-year zone discouraged insurance participation and undermined their resiliency.

The shortcomings of past drainage practices also became increasingly obvious, especially given:

- Design capacities usually limited to at best a modest 1-in-25 annual chance (with the exception of NFIP-driven upgrades), and often the presence of legacy bottlenecks with far lower design capacities;
- Uncertainty and often low-side bias in estimates of annual chance storms;
- Limited contingency factors for drainage design capacity;
- Lack of drainage system maintenance;
- Expanding impervious areas coupled with climate change increasing stormwater flows;
- Overstimulation of development and exposure in marginal floodplain areas; and
- Slab-on-grade construction.

Over decades of repeated annual chances, drainage design capacities naturally were often exceeded, sometimes severely. Hence, flash flood losses mounted for many low-lying areas—especially in poorer and disadvantaged neighborhoods. But while public demands to improve drainage escalated, competing pressures mounted to prevent such improvements from causing adverse upstream and downstream impacts, including for scenarios more extreme than the NFIP 100-year flood.

To better address regional flood sources and adverse impacts from drainage improvements, flood risk policy professionals championed watershed-scale planning. With a view that emphasized managing *floodplain capacity*, they advocated offsetting drainage

improvements with runoff control and detention. In order to confront regional support and fairness issues, they also advocated new governance structures committed to this mission. A prime example of such policy efforts is the post-2016 Flood **Louisiana Watershed Initiative**. Still, many officials and citizens naively saw drainage as strictly a local issue. And most watershed planners naively continued to ignore the fundamental challenge of flood risk distortion.

While public flood risk management remained largely mired in the legacy distortions of “flood protection,” “drainage,” and “artificial ceilings,” the private sector started employing numerous technological advances to make major strides in property-specific risk pricing. Due to the growing threat of climate change to their investments in floodplain communities and corporate assets, global financial institutions together with specialty consultants began transforming the state-of-the-practice in flood risk pricing and spearheading more rigorous due diligence. Today, with improving flood hazard evaluations, more and more floodplain commercial property- stakeholders are carefully studying their flood risk pricing and insurance—and making sophisticated flood risk management decisions.¹

Residential real estate professionals, sensitive of their legal liabilities, are increasingly avoiding false binary descriptions of property flood risk. In 2020 First Street Foundation launched its **Flood Factor**, website to provide a crude flood risk score for every home, which has since been promoted on **Realtor.com**. Growing awareness of flood threats to home valuations is even spurring some owners to invest in their own costly major mitigation efforts—as evidenced in Figure 1. Such private mitigation often serves as glaring evidence of the price of flood resiliency to the whole neighborhood.

Unfortunately, progress on fully modernizing flood risk pricing for residential and other properties has been slow. In October 2021 the NFIP launched its rudimentary *Risk Rating 2.0* approach to revising premiums. The *Risk Rating 2.0* approach does not employ today’s burgeoning technological capabilities in full-spectrum flood hazard and property-specific flood risk pricing, and continues the substantial under- and over-estimation of most property-specific flood risk. The NFIP’s promotion of *Risk Rating 2.0* ignores critical property valuation and due diligence implications—emphasizing the modest (and capped) change to an existing policy’s annual premium and glossing over the stark increase many homes face for a new policy, some in the thousands of dollars. *The latter can reduce a property’s value by an amount that is 20 or more times the new premium increase, depending on new premium changes throughout the applicable housing market!* With large property valuation impacts at stake, the failure of *Risk Rating 2.0* to carefully determine property-specific flood risk pricing using the latest technology is a serious flaw. Furthermore, *Risk Rating 2.0* does not rectify the artificial ceiling problem pervading associated NFIP flood zone mapping, floodplain regulations, and mitigation.

¹ See, Stephanie Wartelle, “Oh the Tides They Are a Changin’: Climate Change, Due Diligence, and How the Standard of Care Should Change to Reflect the Current Technologies in Flood Mapping,” in forthcoming *Journal of Energy Law and Resources*, Volume IX, 2021. The expanding role of due diligence in private flood risk management has a direct parallel in environmental/pollution liability in the 1980s and 90s.



Figure 1 A House in Baton Rouge, LA Being Raised Following Repeated Flooding

The Revolution in Property-Specific Flood Risk

Floodplain communities across the nation are facing rising probabilities for extreme floods; with mounting devastating flood losses exacerbated by distortions in flood risk perception and decisions. Frustrated citizens, community leaders, and the media are impatient to fix the flood risk mess. The flawed *Flood Factor* and NFIP *Risk Rating 2.0* are likely to be the final wake-up call.

Happily, the state-of-the-practice employed in pricing flood risk for large businesses investments can—and soon will—bring about quality flood risk pricing for residential, small business, government, and other properties. The recent advances in ultrahigh-resolution geospatial informatics, analytics, and flood modeling, are fully capable of the expeditious, inexpensive, granular evaluations needed for property-specific full-spectrum flood hazard and risk pricing. This capability will provide reasonable estimates *expected annual cost* and *present value* for flood risk (see **The Ten Steps for Calculating a Property-Specific Flood Risk**)—long conventional for many other risks such as wind and fire—and which is the foundation for sound private and public management of any risk.

Instead of a vicious circle of distortions and bad decisions, the coming transparent and online pricing of real flood risk for every property (a **Zillow.com** for flood risk) will stimulate a virtuous circle with a five-fold revolution in flood resiliency:

I. A Quantum Leap Forward in Property-Stakeholder Due Diligence, Insurance, and Mitigation. Owners, renters, managers, buyers, agents, brokers, lenders, investors, and insurers, (including for government facilities, infrastructure, and other public assets) will confront their explicit responsibilities for flood risk valuation, due diligence, and insurance—and in turn, demand reasonable property-specific flood risk information. In order to control their insurance costs and support property values, property-stakeholders will also accept responsibility for their own flood risk mitigation investments and demand cost-effective, fair, public mitigation investments.

II. Expanding Participation in Flood Insurance. With recognized flood risk liability, banks will expand requirements on borrowers to maintain flood insurance on collateral assets. The bond market will force floodplain communities seeking long-term loans to demonstrate broad-scale flood insurance participation as crucial evidence that they are sustainable and creditworthy. The federal government will incorporate these requirements in regulating the commercial and investment banks. State and local governments will promote and incentivize broad participation in flood insurance as fundamental to community resiliency in the face of climate change. All levels of government will need to address equity issues in flood insurance affordability for homeowners that have been the subject of systemic housing discrimination; but will also need to avoid continuing flood risk distortions and bad decisions that increase aggregate flood risk.

III. Better Flood Insurance. Property-stakeholders will escalate demands for a well-functioning, price-efficient, and financially sound flood insurance system, with flood insurance coverage options at unbiased premiums—not just for the purposes of good insurance but also to simplify the pricing of flood risk facilitate and their due diligence. Congress will modernize the role of government-run flood insurance and reinsurance vis-à-vis an increasingly capable and effective commercial market overseen by the states.

IV. Continuous Improvement in Property-Specific Flood Risk Information. In the face of climate change, the primacy of quality flood risk information will intensify—both to meet property-stakeholder needs for due diligence, good insurance, and their own cost-effective mitigation decisions, and for better public mitigation of aggregate, watershed-scale flood risk. State and local government will accept greater responsibility for developing and updating public information necessary to reasonably calculate every property's flood risk.

This includes—unlike Risk Rating 2.0—an asset-specific *Full-Spectrum Flood Hazard Curve* and *Flood Fragility Curve* (Flood Depth - Expense Correlation). And importantly given climate trends, present value calculations will require improved estimates of impacts to future full-spectrum flood hazard.

V. Cost-Effective Watershed-Scale Public Mitigation. Government will:

- Forgo the mischaracterization of mitigation as “flood protection;” improve plans for evacuation and sheltering of elderly, disabled, and impoverished citizens; and ensure rigorous designs, robust factors of safety, and thorough maintenance for legitimate “flood protection” measures.
- Acknowledge the limitations of older “drainage” systems designed for modest flooding and commit to proper operations, maintenance, and debottlenecking—as well as to no adverse impact.
- Totally abandon “artificial ceilings” and base all future public mitigation (including drainage system upgrades) and regulation on full-spectrum flood hazard, encompassing all flood types and sources.
- Conduct and optimize watershed-based flood risk mitigation and regulation on the basis of four priorities:
- First and Foremost: Commit to the specific target of cost-effectively reducing aggregate flood risk—i.e., aggregate flood insurance costs—with fair benefits, taxes, and regulatory burdens: “Don’t mitigate flood risks that are cheaper to just insure!” and “Stop subsidizing flood risk!”
- Second: Organize requisite watershed-based government authorities dedicated to the First Priority to gain local support and funding.
- Third: Appropriately balance flood risk mitigation needs with other climate-change risk mitigation needs—as evidenced by recent hurricane wind damages and power outages.
- Fourth: Appropriately balance flood risk mitigation needs with other public environmental, economic, social, and cultural interests in waterbody/floodplain resources/uses; be careful with proposed “multi-purpose” public measures conflating other interests with flood risk mitigation, especially if there are funds or stipulations directed towards flood risk mitigation.

In sum, in the not too distant future, property-stakeholders and government will approach flood resiliency with a sound sharing of responsibilities for flood risk—similar to the established shouldering of other property risks.

Bob Jacobsen PE, is a past-president of the American Society of Civil Engineers Louisiana Section. He has worked in hydrological risk (environmental and flood) for 40 years. He has served as a senior consultant on flood risk to the Amite River Basin Commission for over 15 years (including five major reports) and to the Southeast Louisiana Flood Protection Authority—East and Louisiana Coastal Restoration and Protection Authority during the Corps’ construction of the HSDRRS, (three major reports). He authored a two-part article *Managing Hurricane Surge Risks in the Supercomputing Era, Part I: Pre-Katrina Evolution of Surge Hazard Estimation and Risk Management, and Part II: Post-Katrina Progress and Limitations in Surge Hazard Estimation and Implications for Surge Risk Management for the 2015 Louisiana Civil Engineer Journal. He was also the lead author for Hurricane Surge Hazard Uncertainty in Coastal Flood Protection Design (Journal of Dam Safety, 2015). These reports, articles, and other related information can be found at his website: www.bobjacobsenpe.com. He can be reached at bobjacobsenpe@gmail.com.*

ASCE Region 5 News

FROM THE EXECUTIVE DIRECTOR ASCE SOCIETY

Thomas W. Smith III

ENV SP, CAE, F.ASCE

Welcome to 2022 and what will be a big year for our Future World Vision initiative. Watch for your chance to experience Mega City 2070 through the immersive digital platform beginning 2.22.22. We'll also reveal an expansive update to the Future World Vision <https://www.futureworldvision.org/>

and host a member-exclusive, virtual kick-off event. The Engineers Week launch of Future World Vision is just the start, as we rollout an exciting Mega City 2070 virtual reality experience at in-person ASCE events throughout the spring and summer, gear up for a major focus at the ASCE convention in Anaheim, and begin production of a Future World Vision-themed IMAX film in partnership with the producers of *Dream Big*.

2021 Region 5 Civil Engineer of the Year Award - Erin A. Rooney, PE, M.ASCE



Erin Rooney is a professional engineer and certified floodplain manager at HDR Engineering, Inc. in Metairie, Louisiana. She recently received the Outstanding Young Civil Engineer Award from the ASCE New Orleans Branch. Erin has presented at industry conferences on topics including living shorelines, breakwaters, marsh creation, mitigation banking, and numerical modeling. She has served on the boards for ASCE New Orleans, the Coasts, Oceans, Ports, and Rivers Institute Louisiana Chapter, and the Coalition to Restore Coastal Louisiana. Erin received her bachelor's degree in civil engineering from Virginia Tech and her master's degree in civil engineering from Texas A&M University.

ASCE 2022 Convention will be held IN-PERSON in sunny Anaheim, California, Oct. 23-26.

Be sure to save the date on your calendar!

Registration opens in May.

Key reasons you need to attend ASCE 2022 Convention:

1. Attend sessions on risk management, cybersecurity, infrastructure, sustainability, resiliency, renewable energy, and more.
2. Catch a panel on how to make infrastructure more resilient against climate change.
3. Participate in technical tours of local innovative engineering projects.
4. Check out Mega City 2070, an immersive virtual reality experience exploring the built environment of 2070.
5. Gain in-depth knowledge from a variety of pre-conference workshops.
6. Network with your peers and meet new people.
7. Explore the exhibit hall and engage with the ASCE Innovation Contest finalists.

We've extended the deadline to **submit your proposal**. But act now; you only have one week left.

Exhibiting and Sponsorship

For sponsorship and exhibitor opportunities, please contact ASCE Sales at sscully@asce.org, Phone: (703) 295-6154.

Questions?
registrations@asce.org

#ASCE22

In Memory of **William Clifford Smith**

William Clifford Smith, age 86, died peacefully as he wanted, at home and surrounded by family on January 27th, 2022.

Clifford was born in New Orleans on April 21, 1935. But from the time he was a week-old, he lived in Houma, Louisiana—except, as he was quick to say, when he lived in the LSU stadium dormitories. Clifford graduated from Terrebonne High School in 1953 and received a Bachelor of Science Degree in Civil Engineering from Louisiana State University in 1958. Immediately following graduation, he married the love of his life, Jo-Anne Toups (Smith) of Schriever, LA and joined his father T. Baker Smith, Sr. in business. He succeeded his father as President and sole owner of T. Baker Smith & Son in 1962. Following his retirement as President and Owner, Clifford remained Chairman of the Board (Emeritus) of T. Baker Smith until his death.

Like his father, Clifford loved boats, golf, and the wetlands. He instilled in his family a love of South Louisiana, especially Grand Isle. This passion for the Gulf Coast and his engineering expertise led to many years of engagement in local and state politics. With an endless knowledge of Louisiana's history and natural resources, he took pride in focusing attention on much needed physical and capital improvements for the development and protection of his beloved coastal community.

His professional career began focused on developing the place he loved, and it transitioned to being instrumental in working to protect and save it. Clifford was ahead of his time with a focus on coastal erosion and spoke to anyone who would listen on this topic, including Congress when he testified in 2004. Presidents Clinton and Bush both nominated Clifford to serve as a Presidential Appointee to the Mississippi River Commission, where he helped shape national flood control, navigation, and environmental policy and projects.

Clifford's commitment to public service was further reflected in the numerous civic organizations he participated in, including the Houma-Terrebonne Chamber of Commerce, Terrebonne Historical and Cultural Society, Louisiana Board of Regents, and St. Matthew's Episcopal Church Building Committee, as well as the business organizations he was involved in, including

serving on the Entergy Corporation Board of Directors, as Chairman of American Bank & Trust Co., and as a member Community Homestead.

Clifford's continued leadership and unfailing drive earned him a prestigious legacy within Terrebonne Parish and beyond. He was recognized with many awards over his lifetime, some of the

most memorable were the America's Wetland Foundation Lifetime Achievement Award, Louisiana Legends Hall of Fame by Louisiana Public Broadcasting, Coalition to Restore Coastal Louisiana Stewardship Award, de Fleury medal presented by the United States Army Engineer Regiment, A.B. Patterson Medal for Engineer-in-Management, Louisiana State University Civil and Environmental Engineering Hall of Distinction, Terrebonne High School Alumni Award, South Central Industrial Association President's Award, Houma Courier Most Useful Citizen Award, and Woodmen of the World Coastal Award.

One of a kind, proud of his South Louisiana roots, Clifford knowingly spun many stories to full effect, regularly keeping him the outspoken advocate. But what Clifford was prouder of than his academic and professional achievements was the family he created with his wife, Jo-Anne; their 7 children, 21 grandchildren and 6 great grandchildren. Clifford was preceded in death by his parents, Odelia and Thomas Baker Smith, Sr., his sister Merle Smith Lewis and his brother Thomas Baker Smith, Jr.

A visitation was held on January 31, 2022 at St. Matthew's Episcopal Church. A funeral mass was said with the burial following at St. Francis De Sales No. 2 Cemetery. In lieu of flowers, the family suggests memorials be made to St. Mathews Episcopal Church, The Bayou Community Fund, or a charity of your choosing.



William Clifford Smith
April 21, 1935-January 27th, 2022

ASCE-COPRI Louisiana Chapter News

By John Darnall, EI, Director – Communications



COAST, OCEANS,
PORTS AND RIVERS
INSTITUTE

Louisiana Chapter



John Darnall, EI
Director – Communications

The Louisiana Chapter of the Coasts, Oceans, Ports, and Rivers Institute (L.COPRI) of the American Society of Civil Engineers (ASCE) promotes membership, professional development, and visibility throughout the State of Louisiana by conducting virtual webinars and in-person events.

Scholarship Announcement

L.COPRI is collecting scholarship applications for students studying Civil, Coastal, Ocean or Environmental Engineering, or a Coasts, Oceans, Ports, or Rivers related field. L.COPRI intends to award a \$500 scholarship (one time) to one undergraduate and one graduate student. The application deadline is February 18, 2022. Scholarship winners will be presented during the L.COPRI Spring Seminar.

For application inquiries please contact William Gohres, Scholarship Director at williamgohres@matrixpdm.com.

Past Events

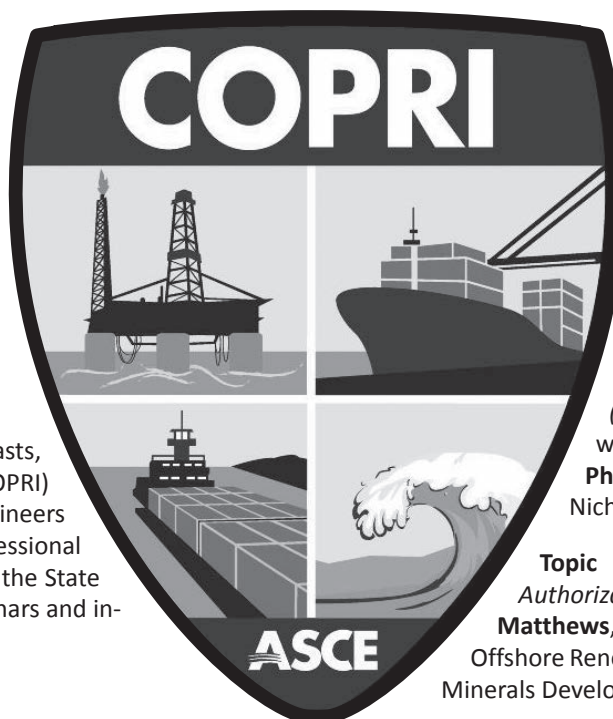
Full-Day Fall Seminar - Sustainable Solutions for Louisiana Resiliency

L.COPRI hosted a full-day in-person seminar on Thursday, October 28, 2021 at the Lod Cook Hotel and Conference Center in Baton Rouge. There was a full schedule of speakers and panelists covering the four pillars of COPRI – Coasts, Oceans, Ports, and Rivers. Special Thanks to all of our speakers & panelists:

Topic 1: Natural Carbon Sequestration in Coastal Habitats; Melissa M. Baustian, PhD, Coastal Ecologist, The Water Institute of the Gulf, Director of RESTORE Act Center of Excellence for Louisiana

Topic 2: Assessing the Current and Future Natural Carbon Sequestration Capacity of Louisiana's Coastal Habitats; Bingqing Liu, PhD, Postdoctoral Researcher, The Water Institute of the Gulf, Deputy Director of the RESTORE Act Center of Excellence for Louisiana.

Topic 3: Replicability of the Lower Mississippi River Physical Model; Parker Brady, MS Student in Coastal and Ecological Engineering, Secretary of LSU's Student Chapter of COPRI.; **Emily Fertitta**,



MS Student in Coastal and Ecological Engineering, Treasurer of LSU's Student Chapter of COPRI; **Julia Mudd**, MS Student in Civil Engineering (Water Resources), President of LSU's Student Chapter of COPRI.

Topic 4: An overview of the Code of Ethics for Engineers published by the National Society of Professional Engineers (NSPE) through the use of case studies from the Board of Ethics Review (BER). **Robert Chambers, PG**, Principal with Freese and Nichols; **Nina Reins, PE, PhD, PMP**, Senior Engineer with Freese and Nichols.

Topic 5: Renewable Energy Leasing and Authorization Process for Offshore Wind; Tershara Matthews, Resource Management Functions for Offshore Renewable Energy, Alternate Use, and Marine Minerals Development, U.S. Gulf of Mexico OCS, BOEM.

Topic 6: Offshore Wind – Turbine Design and the Renewable Process; James Martin, Director, Technology Center Americas (TCA), LM Wind Power.

Topic 7: Offshore Wind and How It's affecting the Ports, Now! Ricky Self, Executive Director of Port of Lake Charles; **Clair Marceaux**, Executive Director of Cameron Parish Port; **David Rabalais**, Executive Director for Terrebonne Port; **Chett Chaisson**, Executive Director for Port Fourchon; **Moderator: Mary "Molly" Bourgoynne, PE**, Director of Ports at DOTD.

We also want to give a huge thanks to our sponsors that made this event possible:



Our webinar featuring Ben Marlborough from the Bayou Lafourche

Freshwater District was on February 10, 2022. Ben Malbrough is a Professional Engineer who has a deep-rooted passion for preserving Coastal Louisiana. After receiving his bachelor's degree in 2004 and his master's degree in 2009 in Civil Engineering from LSU, he was employed with The Shaw Group for over 8 years where he was fortunate enough to be involved in some major coastal restoration and coastal protection efforts across the state such as CPRA's Statewide Comprehensive Master Plan, Morganza to the Gulf Hurricane Protection System, and the Coastal Impact and Assistance Program. In February of 2013, he took over as Executive Director of The Bayou Lafourche Fresh Water District. He is excited to have the opportunity to help turn Bayou Lafourche back into a resilient natural resource for both drinking water supply and as a conveyance channel for the invaluable fresh water and nutrient supply that the wetlands of lower Lafourche and Terrebonne have been starved of for many years. He presented on the Donaldsonville pump station, which is going to construction, and an overview of other recent system improvements including weir removal and saltwater gates. Thank you to all who attended.

Upcoming Events

Our traditional half-day Spring Seminar is currently being planned and updates will be coming soon.

If you have any general event questions, please contact Programs

Director Brett McMann at bmcman@thewaterinstitute.org.

Other Information

The activities of L.COPRI includes seminars, workshops, and other activities to benefit all ASCE and COPRI members. Members do not have to be an engineer to join COPRI. The Institutes of ASCE are formed for the benefit of ASCE and non-ASCE members to participate and interact with other professionals interested in coastal, oceans, ports, and riverine efforts in Louisiana. We would like to extend an invitation to our members to submit feedback and ideas for upcoming webinars and events. Please submit these ideas to jdarnall@southernshoreseng.com, and stay-tuned for a meeting invite if you are a member of our L.COPRI email list.

Also, please don't forget to follow us on LinkedIn! We have a new L.COPRI page!!

Professional Achievement Awards

National COPRI offers several opportunities to recognize our colleagues for their professional achievements. For more information on individual, project, research, and younger member award opportunities, please visit <https://www.asce.org/communities/institutes-and-technical-groups/coasts-ports-oceans-rivers-institute/awards>.

ASCE-G-I Louisiana Chapter News

By Kirk Lowery PE, D. GE, Chapter Chair



GEO-
INSTITUTE
LOUISIANA CHAPTER



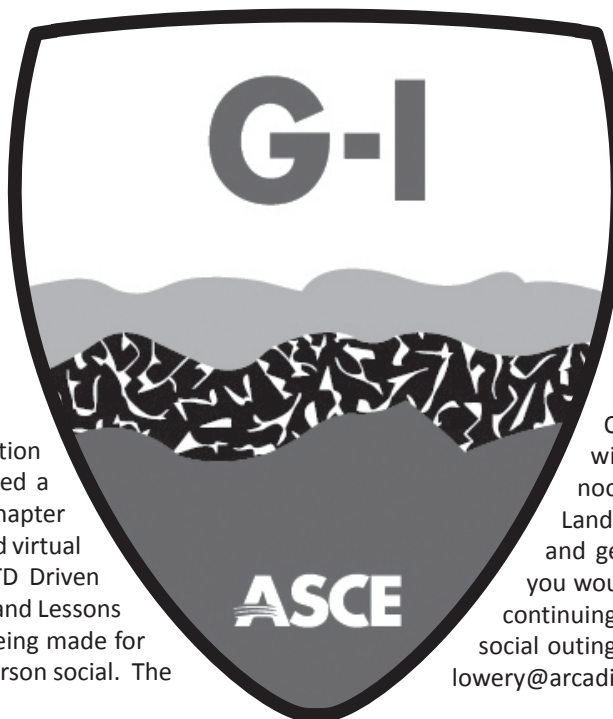
Kirk Lowery, PE, D. GE
G-I Chair

The Louisiana Section in cooperation with the Geo-Institute of ASCE approved a Louisiana Geo-Institute (Louisiana GI) Chapter in 2020. In 2021, the Louisiana GI hosted virtual presentations on Sustainability, LADOTD Driven Pile Design and Verification Using LRFD and Lessons Learned from Failure. Plans are now being made for 2022 presentations and a possible in-person social. The Louisiana G-I board consists of:

Chairman: Kirk Lowery, PE, D. GE

Vice Chairman: Gwendolyn P. Sanders, PE

Secretary/Treasurer: George F. Segré Quilichini, PE



The Louisiana GI offers ASCE members within Louisiana the opportunity to network, learn and interact with civil engineers engaged on projects/solutions from simple to complex soil/soil-structure interaction problems. Membership in Louisiana GI is available to current ASCE members in the Louisiana Section who select GI as their primary or secondary Institute, as well as new ASCE members that select GI as their primary Institute.

On March 8, 2022, Dr. Ricardo C. de Abreu will be presenting a one-hour webinar at noon titled "Geotechnics of Solid Waste Landfills". We will provide more information and geotechnical news in future emails and if you would like to get involved to help coordinate continuing education, outreach, or an enjoyable social outing, please contact me, Kirk Lowery at kirk.lowery@arcadis.com.



Janet L. Evans, PE
Government Relations Chair



House Transportation Committee holds hearing on WRDA priorities

On Tuesday, the House Transportation & Infrastructure Subcommittee on Water Resources and Environment held a hearing with various stakeholders (https://youtu.be/EJR_A-4XFRs) to discuss priorities for the 2022 Water Resources Development Act (WRDA). Witnesses included various state and local officials, as well as representatives from tribal organizations and environmental groups. The hearing was the second held by the subcommittee as part of the House's 2022 WRDA process, with the first hearing being held last month (<https://infrastructurereportcard.org/congress-begins-2022-wrda-process-with-key-hearings/>). Committee members posed questions to relevant stakeholders on various issues including dam safety, supply chain issues, and ports and inland waterways issues.

Chairwoman Grace Napolitano (CA-32) questioned California Secretary of Natural Resources Wade Crowfoot about how the state was managing dams and other infrastructure systems in the face of more extreme weather caused by climate change. Crowfoot emphasized the need for better use of dams and reservoirs for flood management and water supply storage, highlighting that WRDA plays a vital role in addressing these challenges. Additionally, Congresswoman Eddie Bernice Johnson (TX-15) discussed the impact of gulf coast storms on the Port of Houston with Morgan's Point, TX Mayor Michel Bechtel, who discussed the impact of these storms and the COVID-19 crisis on supply chain issues impacting the port.

ASCE submitted a statement for the record to the subcommittee prior to the hearing, highlighting priorities such as improvements to dam and levee safety programs, USACE project financing, and funding for ports and inland waterways. Chairwoman Napolitano noted ASCE's submission of testimony, along with that of other organizations, early in the hearing.

Bipartisan bill to enhance climate resilience and support coastal communities announced

On February 10, 2022, Senators and Representatives from both parties announced plans to introduce the Shoreline Health, Oversight, Restoration, Resilience, and Enhancement (SHORRE) Act, which would enhance Federal authority to support protection and restoration of coastlines from damage caused by climate change. Provisions in the bill include authorizing the U.S. Army Corps of Engineers to prioritize studies and projects that restore damaged shorelines and riverbanks and enhance resilience of natural infrastructure and allowing states to request project designs that directly address challenges caused by climate change. It would also prioritize assistance to economically disadvantaged communities by reducing non-Federal cost share requirements by up to 10 percent for projects, and construction of non-structural nature-based infrastructure in these communities.

Get Ready for State Legislatures' Sessions in 2022

As state legislative sessions kick off in the coming weeks, ASCE encourages you to consider taking the following three actions:

1) Keep your section informed

Check out your state's legislative tracking (<https://cqrcengage.com/asce/state/louisiana?1>) and let ASCE know of any upcoming key bills.
Make sure you read each *This Week in Washington* issue.

2) Engage elected officials

Read ASCE's State Government Relations Manual.
Review ASCE's State Legislative Day Toolkit.
Reach out to ASCE staff. We staff can help you prepare for meetings or testimonies, presentations or speaking with members of the media, or help you pull together customized State Legislative Day toolkits to ensure your day at the Capitol is a success. Contact: govwash@asce.org

3) Educate the public

Share meaningful, case-making resources like the 2021 Infrastructure Report Card, State Report Cards, Failure to Act economic reports, Infrastructure #GameChangers, Asset Management Report, and Life-Cycle Cost Analysis.
Subscribe and share ASCE's Government Relations social media on Twitter, Facebook, and YouTube.
As always, share your successes with ASCE staff at govwash@asce.org to be profiled in upcoming publications!

Bring Power Skills to Your Section or Branch

ASCE's in-depth Power Skills Workshops including the popular Public Relations and Government Relations Universities offerings, are aimed at developing the next generation of civil engineering leaders. These interactive workshops are designed to provide young professionals with training in leadership and interpersonal skills with intentional relationship-building between members. Request one for your Section or Branch today, contact: professional@asce.org.

ASCE-T&DI Louisiana Chapter News

By Michael Paul, PE - Newsletter Editor



TRANSPORTATION
& DEVELOPMENT
INSTITUTE
LOUISIANA CHAPTER



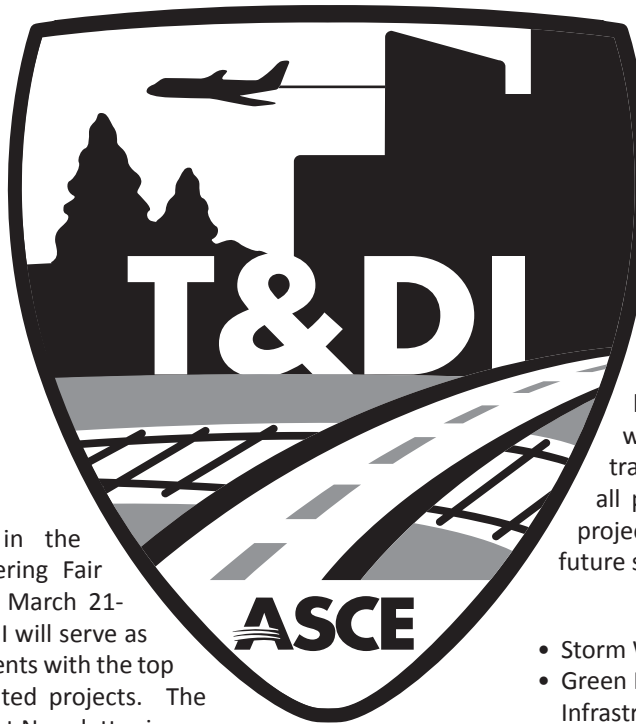
Mike Paul
T&DI Chair

Louisiana State Science and Engineering Fair

T&DI will again be participating in the Louisiana State Science and Engineering Fair this year. The event will take place March 21-23. As in past years, members of T&DI will serve as judges and present awards to the students with the top transportation and development related projects. The awardees will be announced in the next Newsletter issue.

Looking Ahead

The intent of T&DI is to promote transportation and development as a career path, and to provide training and networking opportunities for all professionals involved in the transportation industry. If you are interested in co-sponsoring a seminar at your branch,



the T&DI Louisiana Chapter has prepared a Seminar Coordinator's Check List to assist you in your preparation. Contact Roy Payne rpayne@rclconsultants.com for a copy of the checklist. Historically our seminars are two hours in length and are typically presented from 5:30-7:30 pm in either the New Orleans or Baton Rouge areas. Recently our seminars have gone virtual and have been presented mid-day. In keeping with the intent of the Institute to provide training and networking opportunities for all professionals involved in transportation projects, the Chapter is planning the following future seminars:

- Storm Water Management
- Green Infrastructure: Integrating Infrastructure Needs
- Bicycle Lanes / Complete Streets
- Convention Center Beautification
- Surface Transportation Resiliency
- New Mississippi River Bridge – P3 Financing and Tolling
- Asset Management for Agencies
- Hurricane/Emergency Evacuation Planning



ASCE Louisiana Section Spring Conference Details Forthcoming

The Shreveport Branch will be posting the conference information on the Louisiana Section website and also on their Facebook Page.

If you would like more information, please email them at asce.shreveport@gmail.com and sign up for their monthly newsletters.

ASCE-UE&S Louisiana Chapter News

By: John Matthews, PhD, M.ASCE & Ali Mustapha, PE, F.ASCE



UTILITY ENGINEERING
& SURVEYING
INSTITUTE
LOUISIANA CHAPTER



John Matthews, PhD
UESI Chair

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Secretary/Treasurer:

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alimm@bellsouth.net

The Louisiana Chapter of ASCE Utility Engineering and Surveying Institute – Louisiana Chapter (“UESI-LA”) was established in 2020 to offers professionals working within the utility, pipeline engineering, and surveying/geomatics communities the opportunity to network with others and shape the future of the industry by participating in technical activities, conferences, and the development of internationally recognized standards.

Membership in UESI-LA Chapter is available to current Louisiana Section of ASCE members who select UESI as their primary or secondary Institute, as well as new ASCE members that select UESI as their primary Institute. As an ASCE member, you can join one Institute at no additional cost or add a second institute for just \$30 per year.

UESI Membership for other than ASCE members (technicians, vendors “salespeople”, and other non-engineers involved in utility and surveying and mapping practices) is available for only \$135 per year membership fee.

The Chapter is excited to announce that the National ASCE UESI Surveying Competition will be held from June 3 to 5 on the campus of Louisiana Tech University this summer. The ASCE UESI Surveying Competition’s educational and professional goals include a recognition of the importance of basic surveying principles to all civil engineering projects. Students will be required to use standard field and office equipment and procedures to solve common



problems encountered in industry. A clear understanding of and ability to apply basic surveying principles will assist the graduate civil engineer in communicating and working with the surveying professionals on the job site and during the design process.



In addition to the Surveying Competition, the National Concrete Canoe Competition and the Sustainability Competition will also be held along with other events. In all, more than 300 of the top civil engineering and construction students from colleges and universities from across the globe will be in Ruston competing. Louisiana Tech is excited to host all of these events and is currently fundraising from any and all that interested to support this unique event. Individuals and companies that would like to contribute to the overall conference effort can make donations at the following Bull Market link.

<https://bullmarket.latechalumni.org/o/louisiana-tech-university-foundation/i/bull-market-crowdfunding-coming/s/coes-project>

Any company interested in sponsoring can do so at the following link. There are five sponsorship levels with various benefits: Platinum (\$20,000); Gold (\$10,000); Silver (\$5,000); Bronze (\$2,500); and Copper (\$1,000). For more information about the various benefits of sponsorship, please contact UESI Louisiana Chapter Chair John C. Matthews at matthews@latech.edu.

www.latechalumni.org/asce

The Chapter is developing a plan to continue conducting Quarterly virtual meetings (seminars) and is asking interested ASCE and UESI members for recommendations of topics and speakers for these virtual seminars. Also, the Chapter is asking for volunteers to serve on the Chapter’s Board and committees to help in organizing a successful institute that will meet the needs of all the Section members and serve the industry, State, and local Municipal Governments.

Branch News



ACADIANA BRANCH

By Grant Besse, PE, Branch President

As we move into this new year, the Board wishes all its members and their loved ones a happy new year.

February will have two in-person PDH opportunities we are offering in coordination with ULL. These events will be held during the senior design class and student-chapter ASCE meetings.

As everyone is certainly busy, holding the PDH opportunities at these times will give the professional community a chance to meet the engineering students that will become our future colleagues. Please see the events page and be on the lookout for an email with registration and more details about these events.

Many students entering college have little knowledge of what engineering is, what we do, and how rewarding the profession can be. One of the initiatives for the ASCE local branches this year is to

increase the amount of pre-college outreach in the area to share knowledge about the engineering profession and specifically civil engineering. The hope is that increasing outreach will not only help the general public's understanding of engineering overall but may also inspire a few students to become the next generation of engineers. This outreach will come in the form of short presentations and hands-on demonstrations to give students a basic and easily digestible overview of engineering.

As we move into the planning of this outreach, we ask that anyone that has experience or interest in outreach to reach out to any of the board members. We hope to build a local outreach program based on a solid foundation of the expertise of the local civil engineering community.

Please stay healthy and reach out to any of the board members with any additional comments or concerns.



SHREVEPORT BRANCH

Luke Haney, EI, President of Shreveport Branch

The Shreveport branch hosted a golf tournament fundraiser at Querbes Park Golf Course on October 15, 2021. We had 60 players and over 30 sponsors for this year's tournament. The day ran smoothly with the help of over ten Louisiana Tech student volunteers! The

tournament was a tight race, but Verdunity ended up on top as our 1st place team. The funds raised will be used to provide scholarships to Louisiana Tech engineering students during the 2022 spring semester.

Our November meeting was a lunch presentation on air valves at pump stations presented by Andy Brown with D&W Systems Sales. 2021 was concluded with a joint ASCE/LES Christmas Social held at Flying Heart Brewing and Pub in Bossier City, LA. We kicked off 2022 with a January lunch presentation given by Dustin Douglas with Geopier. ASCE Shreveport looks forward to another year of luncheons, conferences, and fundraisers as we continue to grow our profession through education and outreach.



Verdunity finished on top as tournament champions!



Student ASCE members from LA Tech helped with set up, hospitality carts, and break down



NEW ORLEANS BRANCH

By Stephanie C Bayne, PE, Branch President

November and December were busy months for the New Orleans Branch. The Younger Member Group had a few events. There were also a few opportunities for all members to network at socials, an annual conference, and an in-person luncheon.

Our Younger Member Group finished their fall season of kickball with the playNOLA

League at City Park. Each game from mid-October to Thanksgiving had approximately 8 to 12 younger members in attendance. On November 10, the Younger Member Forum took place at Lula. Between 20 and 25 younger members were in attendance. The panelists spoke about their insights into the profession of civil engineering and their predictions for the future. On November 20, the Younger Member Chairperson, James Williams, attended a Tree Planting and Swamp Restoration Day with two UNO Student Chapter members hosted by the Pontchartrain Conservancy. We hope to get more involved with these kinds of events.

On November 11, there was a Joint Professional Societies Social at Faubourg Brewery. ASCE is one of eight professional societies that participates in this social. This is a great way to meet other professionals and expand networks.

On December 1, Justin Ehrenwerth of The Water Institute of the Gulf spoke about the Lower Mississippi SmartPort and Resilience Center; "Waze for the River." Through the development of a decision

support tool to forecast shoaling at port facilities along the Mississippi River, SmartPort will improve port operations and benefit a variety of stakeholders who need to understand how sediment builds up in the Mississippi River. Although the turnout was smaller than normal, the attendees were very engaged in the topic and excited about what could become of the information being collected with SmartPort.

On December 3, the annual S.A.M.E. & ASCE Joint Holiday Party took place at Sidecar Patio & Oyster Bar. This was a great event for our members to not only network but to also relax and celebrate the season.

The Louisiana Civil Engineering Conference and Show (LCECS) was held December 7-8 at the Hyatt Regency in New Orleans. Even with all of the obstacles that faced the committee to host the 2021 LCECS, the conference was a success. This was the first year the New Orleans Branch manned a booth in the Exhibit Hall and was able to meet potential luncheon speakers and talk to members about opportunities within the Branch including outreach, Board meetings, and luncheons.

The Board is currently working on programming for 2022. You can stay informed by following us at ASCE New Orleans on Facebook, on LinkedIn at ASCE New Orleans Branch, or our website (www.asceneworleans.org). If you have any questions, comments about how we can serve you better, or would like to get involved, please contact us at ASCENeworleans@gmail.com.



New Orleans Branch Younger Member Chair and Director-at-Large, James Williams, leads the Younger Member Forum panel in a discussion about their thoughts on the future of engineering. Photo By: Stephanie C. Bayne



The panel for the Younger Member Forum included Andrew Woodroof, Sean Walsh, Jenny Snape, and Jesse Noel. Photo By: Stephanie C. Bayne



Meagan Williams acts as the master of ceremonies for the raffle at the Joint Professional Societies Social at Faubourg Brewery Co. Photo By: Stephanie C. Bayne



Justin Ehrenwerth, President and CEO of The Water Institute of the Gulf, spoke at the December Luncheon at Lula Restaurant and Distillery. Photo By: Stephanie C. Bayne



BATON ROUGE BRANCH

By Tyler H. Branch, PE, Branch President

As we closed out an interesting 2021 and started the New Year, ASCE Baton Rouge Branch has strived to provide meaningful interactions with our membership no matter what limitations may arise.

In December 2021, we had the privilege of hosting Dr. Greg Upton of the LSU Center for Energy Studies to speak to our membership in a partial in-person, partial virtual setting. He spoke to us about the updated Gulf Coast Energy Outlook. In January 2022, we welcomed Mr. Jay Hardman of the Port of Greater Baton Rouge to speak to our membership about the different projects underway at the Port.

This month, ASCE is collaborating with Louisiana Engineering Society Baton Rouge Chapter to celebrate E-Week (Feb. 20 – 26, 2022) with a Luncheon at Ruffino's on Tuesday, February 22, and a Cocktail Event at City Club of Baton Rouge on Thursday, February 24. Also, as a part of our E-Week celebration, we are awarding our Annual \$1,000 ASCE Scholarship to a current Civil Engineering Undergraduate Student at LSU or SU!

Our future events include Branch Luncheons on March 17th and April 21st, and an anticipated Luncheon collaboration with LES in May. We hope to get back to our "normal" events, hosting younger member evening events and resuming our "Bridging the Gap" series focusing on guiding younger professionals in the early stages of their careers. We look forward to the rest of the year to come!

LOUISIANA TECH UNIVERSITY

By Mallory Mankins, ASCE Student Chapter President

The American Society of Civil Engineers student chapter at Louisiana Tech has had a busy end of Fall Quarter and beginning of Winter Quarter. As we were hoping would happen, our new members have been eager to jump in and get involved with the different sub-groups that interested them.

At the end of Fall Quarter, we held our annual burger burn where younger members get the opportunity to meet some of the Civil professors. With the way the curriculum is set up at Louisiana Tech, you don't typically get to meet a bunch of your major specific professors until your later years. This year we held this event at the Trenchless Technology Center and all of the students that came out were able to receive a tour of this research facility that not many campuses have.

This year's Asphalt Road-eo competition was a virtual event where we had 6 of our officers/members compete. Each team had to use data collected from a prematurely failed asphalt road and conduct a forensic analysis of the failure. They were graded on the use of the given data and the accuracy of our findings. Our team won this year's competition which is a big accomplishment for our TLC group.

Our other groups have been hard at work getting ready for the regional competition that is going to be held in just a few months. The concrete canoe team has started having several practices a week to make sure that the paddlers endurance is built up so that they can sustain all that will be asked of them during the competitions. We have also already poured the canoe for this year and it is currently in the curing stage and will be done curing before we all go home for the quarter break. The steel bridge team has finalized their design of the bridge and has started practicing assembling it.

Looking forward, we will be hosting Civil Engineering week which will be a week packed full of industry speakers and will close the week out with our Winter Banquet. We are honored that Dr. Truax is going to be our guest speaker for our Winter Banquet this year. We will be attending the Gulf Coast Regional Competition on March 31st- April 2nd at Auburn University and then will host the National Competition at the beginning of June.

If you are interested in getting involved, please reach out to asce.louisianatech@gmail.com.

LOUISIANA STATE UNIVERSITY

By Madalyn Mouton, Student Chapter President

The American Society of Civil Engineers at LSU started their 2022 year with a meeting on February 3rd about preparing for the STEM Career Fair on February 8th. Career Coach from the Olinde Career Center Courtney Frost joined this meeting to give professional advice on how a student could succeed at a career fair alone with our officers following up with their own experience. For the start of the semester, recruitment chair Matthew Derouen led recruitment efforts with other officers in over 10 classes resulting in over 50 new members joining the ASCE Groupchat. ASCE@LSU has also started using TigerLink, LSU's website for on-campus organizations to post events, keep track of their student members, and display their club online. Over 40 students have signed up on TigerLink for ASCE@LSU to become official active members.

ASCE@LSU is proud to have three competition teams working hard to compete at Auburn, Alabama at the end of March. Steel Bridge is still going strong with Captain and Vice President Eli Barbin leading the team. Concrete Canoe has started up again with a completely new team led by Captain and President Madalyn Mouton. Surveying has scraped together a team of 8 people within a week led by Captain and Officer Alexander Stapp. We are excited to be taking 23 students to the regional Gulf Coast Conference in a few weeks, with almost all of the students experiencing an in-person ASCE student conference for the first time.

Our Bayou Regional Career Fair planning is being led by Officer Vy Lee with supporting help from Officer Matthew Derouen and Officer Nicholas Vu. Our 5th Bayou Regional Career Fair is being held on April 7th. Registration to the event for companies and firms will be sent out within the next few weeks so please be on the lookout for that. Companies can also contact asce@lsu.edu to make sure to receive more information about the event and make sure that their correct information is on our mailing list.

We are excited to start off this semester strong with new officers, new members, and new initiatives to build a student chapter with active student leadership.



UNIVERSITY OF NEW ORLEANS

By Rai Joseph, Student Chapter Secretary

UNO Chapter 2021-2022 Chapter Board

President - Yelitza Perez, ysperez@uno.edu

Vice President - Amanda Darda, acdarda@uno.edu

Secretary - Rai Joseph, rjoseph5@uno.edu

Treasurer - Sarah Chiasson, Sgchiass@uno.edu

Conference Chair - Roger Gimon, rquintan@uno.edu

ASCE student chapter at UNO had a fantastic finish to the 2021 year, we were able to meet our goal of increasing student chapter membership by 35% and are entering the new year with a membership total of 38 members. We hosted many successful events and had the pleasure of attending several of the New Orleans ASCE branch's meetings and socials. We collaborated with amazing companies such as Digital Engineering & Imaging Inc, Burk-Kleinpeter Inc and The Beta Group, and with the assistance of those companies, the chapter was able to deliver various presentations and workshops that provided our members with career insight to the Civil Engineering field as well as networking opportunities.

We are currently holding monthly meetings, our first was held on February 8th and the next is set to be held March 8th, in addition to our monthly meetings, we have also included Officer presentations on engineering-related topics to our list of events for the semester, the first presentation is scheduled on April 8th. Our concrete canoe team is excited to be taking part in southeastern student symposium this spring and believe that we will have a great outcome at this year's competition which will be held at Auburn University in March. The month of January was productive, we were able to complete the testing and design mix of our concrete and the mold. The chapter is planning to host a fundraising event this year and are looking for venues, if you would like to provide any assistance or have any inquiries you could contact the chapter through our email asce@uno.edu.



UNO's Concrete Canoe team with Mark A. Cheek, PE and Gianna Cothren, PhD, PE



Andrew Woodroof PE at UNO's ASCE general body meeting



Chaz McGee, Alumni at UNO's General body meeting

UNIVERSITY OF LOUISIANA LAFAYETTE

By Aaron Enlund, UL Student Chapter President

As a new semester kicks off, we look forward to the start of the new year. We have multiple events planned for this semester. This includes a spring recruitment meeting as well as a student conference interest meeting. These meetings will play a vital role in the completion of the tasks for the student competitions.

Our student competitions are continuing to work hard on their respective projects. This year we plan on competing in the concrete canoe, steel bridge, sustainable solutions, and surveying competitions. We cannot wait to travel to Auburn to compete in these competitions.

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With a full suite of programs and resources to help you thrive, ASCE membership provides you with the knowledge and opportunities you'll need to jump into the industry, get on the right career path, and have fun doing it.

Contact Student Programs



www.asce.org/communities/student-members

SOUTHERN UNIVERSITY

By Jelani Smith, Student Chapter President

As Engineering week approaches at SU, ASCE as well as the other engineering related organizations have planned and are collaborating on a multitude of activities and events to help boost membership, and school pride. One of the events taking place is

The Southern University History of the P.B.S. Pinchback Engineering Building



The College of Engineering at Southern University, Baton Rouge can be best understood through an examination of its history. Southern University was established by Louisiana State Legislature Act 87 in 1880 to serve as an institution of higher learning, graduating students and graduate degrees pertaining to arts and letters for persons of color. Throughout the early years and until 1954, industrial job training curricula were limited to vocational and industrial arts education programs with major emphasis on teacher education. During the early fifties, the need for more mathematically and scientifically oriented curriculums surfaced. The Division of Technology was established in 1954, which offered a four-year baccalaureate program leading to a non-teaching degree in electronics. The engineering college was established in 1956 as one of nine colleges at Southern University at Baton Rouge.

The Master of Engineering (MEng) degree program was approved by the Louisiana Board of Regents on September 27, 2001 and was initiated in the College of Engineering in the Spring Semester of 2002. The Master of Engineering program will offer five specialty area options. The options are: Environmental and Water Resources Engineering, Electronic Materials and Processing Engineering, Telecommunications and Computer Network Engineering, Material Science and Engineering, and Thermal Science and Engineering.

In 2001, the college saw completion of the new P.B.S. Pinchback Engineering building – a state-of-the-art facility that increased the size of the Engineering Complex by 117,000 square feet. P.B.S. Pinchback Engineering building houses the departments of civil engineering, electrical engineering, electronics engineering technology and mechanical engineering. additional computer laboratories, a state-of-the-science advanced technology educational and research laboratories, a high-tech classroom, and multimedia classrooms. The building is named in honor of Pinckney Benton Stewart Pinchback.

a Mr/Mrs Engineering Pageant. Additionally, fun competitions between students and staff will take place throughout the week as well as a barbecue that Friday.

PICKNEY BENTON STEWART PINCHBACK PROFILE



Pickney Benton Stewart Pinchback

Picture date: 1872-73 - Image Courtesy: Library of Congress

Born: May 10, 1837, in Macon, Georgia

Political Affiliation: Republican

Religious Affiliation: African Methodist Episcopal

Education: Gilmore School (Cincinnati); studied law at Straight University (New Orleans)

Career Prior to Term: Union Army Officer, Lt. Governor

How he became Governor: Became Lt. Governor upon death of Dunn; became Governor upon suspension of Warmouth.

Career after term: State Board of Education, Internal Revenue Agent, member of Southern University Board of Trustees

Died: December 21, 1921, in Washington, DC

"I am groping about through this American forest of prejudice and proscription, determined to find some form of civilization where all men will be accepted for what they are worth." -P. B. S. Pinchback

Pinckney Benton Stewart Pinchback, the son of a Mississippi white planter and a freed slave, became active in Republican Party politics in Louisiana as a delegate in the Republican state convention of 1867 and to the Constitutional Convention of 1868.

Pinchback became the 12th Lieutenant Governor of Louisiana, December 6, 1871 – December 9, 1872, under Henry Clay Warmoth when Oscar Dunn died. After Warmoth was impeached, Pinchback became 24th Governor of Louisiana. He held office for only 35 days, December 9, 1872 – January 13, 1873, but ten acts of the Legislature became law during that time.

After William Pitt Kellogg took office as a result of the controversial election of 1872, Pinchback continued his career, holding various offices including a seat on the State Board of Education, Internal Revenue agent and as a member of the Board of Trustees of Southern University.

Pinchback helped establish Southern University when, in the Constitutional Convention of 1879, he pushed for the creation of a college for blacks in Louisiana.

Pinchback and his family moved to Washington and then New York where he was a Federal Marshal. He later moved back to Washington to practice law and died there in 1921. Pinchback is buried in Metairie.

<https://www.subr.edu/page/981>

MCNEESE STATE UNIVERSITY

By Alexis Nguyen, McNeese Student Chapter President

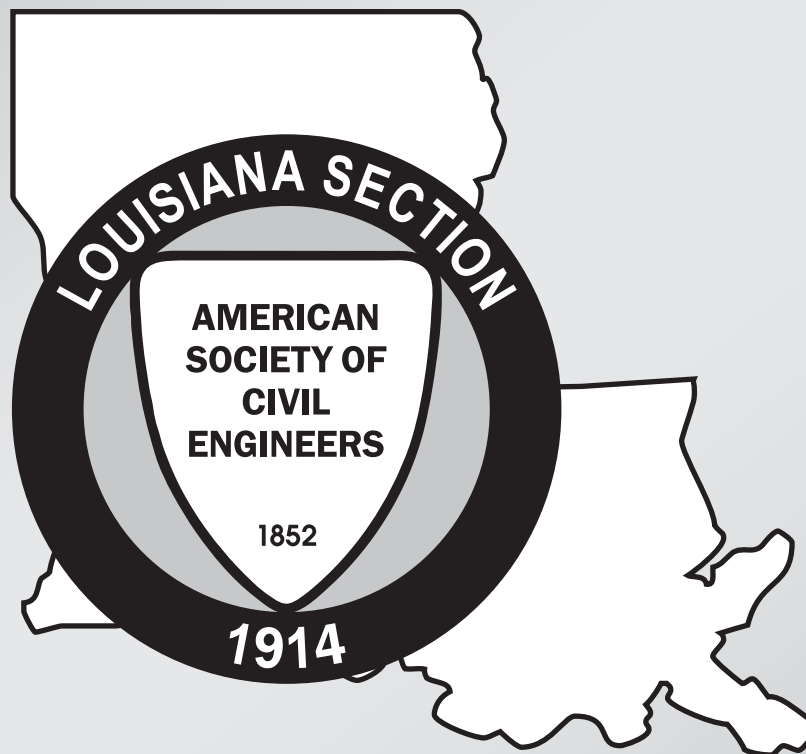
McNeese ASCE welcomes everyone back from a nice and relaxing break, but now it's time to get to work! Our chapter gathered on the first week of school to discuss the matter of the ASCE Gulf Coast Student Conference. For the past 6 months, we have been communicating with sponsors, recruiting members, and speaking with former ASCE members and professional engineers to help prepare us for the conference at Auburn University this coming March.

McNeese ASCE hopes to compete in the Concrete Canoe and Surveying competition at conference. First, we must gather volunteers to help clear the workspace to construct the canoe. We are working with sponsors for the supply of light weight aggregates and materials to construct the mold of the canoe. Concrete mix designs will be conducted as soon as next week and then we will have the support of our whole chapter to help with the process of building the constructing a floatable concrete canoe. Once the canoe is complete, the curing process will begin, and the canoe will be ready for a test run after about 28 days.

Although this is a tentative plan, we are confident that we'll be ready for conference and will show up and have a great time! After 3 years of MSU ASCE being almost inactive, we're proud of our active members and ambition to deliver at this conference. We'd like to give a huge thanks for everyone who has supported McNeese ASCE along the way. Geaux Pokes!



Figure 1: ASCE Table for McNeese Preview Day



— CALENDAR OF EVENTS —

2022

ASCE Baton Rouge Luncheon, March 2022 In-Person / Virtual, Date: Thursday, March 17, 2022, Time: 11:30 am - 1:00 pm, Place: Drusilla Seafood, 3482 Drusilla Ln D, Baton Rouge, LA 70809. Registration required. <https://branches.asce.org/baton-rouge/>

ASCE Week Orlando 2022: March 20-25, 2022 In-Person, ASCE Week is a Bi-annual Event. <https://www.asce.org/education-and-events/events/meetings/asce-week-orlando-2022>

UESI Surveying & Geomatics Conference 2022: April 3-5, 2022, Cincinnati State Technical and Community College joint conference. <https://www.asce.org/education-and-events/events/meetings/uesi-surveying---geomatics-conference-2022>

Events are constantly being updated online:

For ASCE Society events please see online:
https://www.asce.org/conferences_events/
https://www.asce.org/student_conferences/

For ASCE Baton Rouge events please see online:
<http://branches.asce.org/baton-rouge/events>

For ASCE Shreveport events please see online:
<https://www.facebook.com/ASCEShreveport/>

For ASCE Acadian events please see online:
<http://branches.asce.org/acadiana/events>

For ASCE NOLA events please see online:
<http://asceneworleans.org/events/>

For more events visit the ASCE Events Calendar: <http://www.lasce.org/calendar.html>

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